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Docket No: 644/37423  
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Emad El HAJE Confirmation No.: 1690  
Serial No.: 10/774,451 Art Unit: 3732  
Filed: February 10, 2004 Examiner: Melba N. Bumgarner  
For: METHOD AND DEVICE FOR POSITIONING GUM LINE  
ABOUT DENTAL REPLACEMENT TEETH SURFACES

**APPEAL BRIEF**

**Mail Stop Appeal Brief - Patents**  
Commissioner for Patents  
P.O. Box 1450  
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U.S. Patent and Trademark Office

Sir:

Attached hereto is an Appeal Brief for the above-captioned application and a check in the amount of \$500.00 for the Appeal Brief. Filed concurrently herewith is a Notice of Appeal and a check in the amount of \$500.00 for the Notice of Appeal.

1. Real party in interest. The inventor Emad El Haje is the real party in interest.
2. Related appeals and interferences. There are no known prior appeals, interferences, or judicial proceedings which are related to, directly affect, directly affected by, or have a bearing on the Board's decision in this pending appeal.
3. Status of Claims. Claims 1, 2, 13, 15, 16 and 21 have been finally rejected as being anticipated by Robertson (3,238,620) under 35 U.S.C. §102(b).

Claims 1, 3-5, 7-9, 11, 12, 15 and 17-20 have been finally rejected as being anticipated by Brosius (5,829,974) under 35 U.S.C. §102(b).

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Claims 3-12 have been finally rejected as being unpatentable over Robertson (3,238,620) in view of Brosius (5,829,974) under 35 U.S.C. §103(a).

Claim 14 has been finally rejected as being unpatentable over Robertson (3,238,620) in view of Mahoney et al. (5,976,439) under 35 U.S.C. §103(a).

Claim 22 has been finally rejected as being unpatentable over Robertson (3,238,620) under 35 U.S.C. §103(a).

Thus ALL the claims in the application (Claims 1-22) have been finally rejected and all the above-identified rejections are being appealed.

No claim(s) have been allowed, withdrawn, objected to or been cancelled.

4. Status of Amendments. No amendments after the mailing of the final rejection on February 3, 2006 have been submitted.

5. Summary of claimed subject matter.

The invention relates to a device and method for packing a dental patient's soft gum tissue around prosthetic teeth such as dental caps and implants (page 1, lines 1-2).

There is only one single independent claim (Claim 1) which is an apparatus (gum packing tool) claim. Claims 2-14 are dependent either directly or indirectly on Claim 1. Claims 15-20 are apparatus claims comprising a plurality of tools of Claims 1-5 and 9 and dependent on Claims 1-5 and 9 respectively. Claims 21 and 22 are method claims drawn to packing of tissue gums around a tooth dependent on the tool of Claim 1.

When a dentist installs prosthetic teeth or dental implants 14 (Figs. 13-15) into a patients jaw, the soft gum tissue 18 (Figs. 13-15) around the root portion of the tooth is spread open to allow for insertion of the prosthetic 14 (Figs. 13-15). After insertion and seating of the prosthetic 14, the soft spread open gum tissue needs to be tamped around the root portion of the prosthetic 14 so it will prevent entry of germs and food particles between

the root portion of the prosthetic 14 and the soft gum tissue 18. During deep scaling and periodontal work, a patient's soft gum tissue can also be spread away from the root portions of a tooth (first paragraph of the Detailed Description of the Drawings, page 4).

Currently dentists utilize a long string (with its disadvantages) to cause the spread away soft gum tissue to be packed around the root of the tooth (second paragraph of the Detailed Description of the Drawings, page 4).

The current invention relates to an endless flexible strand tool 10 which can be stretched to be enlarged to pass over the head of a prosthetic tooth (Fig. 13) and slide down along the sides of the tooth down to the gum line (Figs. 14 and 15) where the strand is relaxed and assumes a tight fit against the bottom portion of the prosthetic trapping the soft gum against the root portion of the prosthetic 14 (lines 10-14, page 4 and lines 3-19, page 6).

Claim 1 the only independent claim is written in 35 U.S.C. §112 means plus function format and provides:

- a) a gum packing assisting tool 10 for forcing soft gum tissue of a patient around a tooth 14 (Figs. 1 and 13);
- b) comprising an endless strand 10 (Figs. 1 and 13-15);
- c) the endless strand 10 being made of a material which is easily sterilized (lines 21-24, page 5);
- d) the endless strand 10 being made of a flexible (lines 7-12, page 5) dense material (line 24, page 5 to line 2, page 6) which stretches under tension (lines 18-21, page 5) and returns to its original shape when the tension is released (lines 21-22, page 5) and which admits of few, if any, pockets for housing germs and contaminants therein (lines 1-2, page 6), wherein the length of the endless strand is less than the circumference of the tooth around which soft gum is to be forced around (lines 4-9, page 6) so that the endless strand 10

can be tensioned to allow the endless strand 10 to be placed over (Fig. 13) and encircle the tooth 14 (Fig. 14) and to tightly grasp the edges of the tooth 14 when tension is released (lines 9-16, page 6 and Figs. 14 and 15); and

e) wherein the endless tool has portions of its cross-section to be of circular configuration (lines 14-15, page 6 and Figs. 5-8) so as to facilitate rolling downward of the endless strand 10 over the sides of tooth 14 (Fig. 14) to the gum line 18 of the patient (lines 12-14, page 6 and Fig. 15).

Dependent Claim 2 provides for a substantial constant cross-section endless strand 10 (Fig. 1).

Dependent Claim 3 provides for a varying cross-section along the length of the endless strand 10 (Figs. 5-8).

Dependent Claim 4 provides for the endless strand 10 to have at least two widened portions 26 and 28, (Figs. 4-8) the ends of which are spread from each other by an equal distance.

Dependent Claims 5-8 references at least one projecting tab 30 on the endless strand 10 and Claims 9-12 recite at least two tabs 30, 32 (Figs. 10 and 11, lines 15-18, page 7) to permit easy removal of the endless strand 10 from the tooth (the tabs are wrapped about the endless strand 10 when the strand is being rolled over the tooth (lines 14-16, page 7).

Claim 13 references a medical coating on the endless strand 10 for treatment of any one of pain infection and pain and infection (lines 8-10, page 8).

Claim 14 references the endless tool to be biodegradable (lines 11-13, page 8).

Claims 15-20 recite a kit 34 (Fig. 12) of a plurality of gum packing tools 10 of at least different length endless strands, different thicknesses and different shapes (lines 20-24, page 7, line 2, page 8).

Claims 20 and 21 are directed to a 35 U.S.C. §112 method of packing soft tissue gums 18 around a tooth 14 comprising selecting a gum packing tool 10 of claim 1, tensioning the tool 10 to stretch the tool 10 (Fig. 13), placing the stretched tool 10 over and around a tooth, (Figs. 13 and 14). Releasing the tension on the tool 10 and moving the tool along the tooth 14 (Figs. 14 and 15) until it touches the soft gum tissue 18 and tamping the tool to move the touching soft gum tissue 18 against the root portions of the tooth 14 (lines 17-19, page 6). Claim 22 requires the moving step of Claim 21 to be rolling of the endless strand 10 toward the gum line 18.

6. Grounds of rejection to be reviewed on appeal.

1) Whether the Robertson (3,238,620) patent anticipates each and every recitation of Claims 1, 2, 13, 15, 16 and 21.

2) Whether the Brosius (5,829,974) patent anticipates each and every recitation of Claims 1, 3-5, 7-9, 11, 12, 15 and 17-20.

3) Whether the Brosius (5,829,974) teaches that it would be obvious to one having ordinary skill in the art at the time the invention was made to modify the tool of Robertson (3,238,620) to have the cross-sectional area of Brosius in order to be able to facilitate installation of the tool of Robertson in view of Brosius.

4) Whether the Mahoney et al. (5,976,439) patent makes it obvious to one having ordinary skill in the art at the time the invention was made to modify the tool of Robertson to be biodegradable as in Mahoney et al. in order to use a tool that is biocompatible and easier to use by eliminating steps in view of Mahoney et al.

5) Whether Robertson teaches that it would be obvious to one of ordinary skill in the art as to the movement of the tool along the tooth (by rolling) with the tool as disclosed by Robertson in order to place the tool down to the gum tissue.

7. Argument.

1. Whether the Robertson (3,238,620) anticipates the invention recited in Claims 1, 2, 13, 15, 16 and 21 under 35 U.S.C. §102. Robertson provides a RETRACTING appliance ring 6 used “in retracting gingival or gum tissue from the cervical surfaces of the tooth” lines 10-12, lines 14-15, lines 21-22, lines 48-49, column 1). In Robertson the inside of the ring 6 must tightly grasp the neck portion 12 of the tooth 8 so as to press the gum 10 down the neck to form a crevice 7 (see Fig. 5) so that a proper impression of the tooth 8 can be taken. The ring 6 “can be manufactured in various diameters and thicknesses...of absorbent, resilient materials...such as hard and soft leathers” (lines 47-51, column 2). The ring 6 “may be impregnated with a vaso-constrictor to control or restrict the capillary bleeding from said gum tissue”, (lines 67-69, column 1). The Examiner is wrong in stating that in Robertson “the strand tool has portions of its cross-section to be of circular configuration”. The Robertson disclosure shows the cross-section to be rectangular or square. The reason for this is to provide a flat scraper to retract the gum tissue from around the side cervical surfaces of the tooth. Making of the cross-section of the ring 6 round would not permit the Robertson desired clean retraction which “will provide UNIFORM retraction of the gum tissue surrounding the neck portion of the tooth” (lines 47-49, column 1). The Examiner is wrong in stating “Robertson discloses a method of packing soft tissue gum around a tooth (column 2, line 60)”. To the contrary, Robertson discloses a method for RETRACTING soft gum tissue from around the root of a tooth (lines 48-49, column 1), not PACKING soft tissue gum around the tooth. The Examiner is wrong in stating the ring of Robertson “has a medicinal coating (column 3, line 1)”. The ring 6 of Robertson “may be impregnated with a vaso-constrictor to control or restrict the capillary bleeding from the gum tissue” (lines 67-69, column 1, lines 1-7, column 3). A “vaso-constrictor” is not a medicine,

much less the claimed “medicinal coating for treatment of any one of: pain, infection, and pain and infection” of claim 13.

As indicated above, Claim 1 is written in means plus function format which requires a “tool for forcing soft gum tissue of a patient around a tooth”. Robertson does just the opposite, forcing the gum tissue away from the side surfaces of the tooth to create the uniform crevice 7. Claim 1 requires the endless strand material be easily sterilized. Robertson’s ring 6 is made of “hard and soft leathers” (lines 50-52, column 2) which are materials not “easily sterilized”. Claim 1 requires that the endless strand “admits of few, if any, pockets for housing germs and containments therein”. Robertson’s leather has pockets especially since Robertson desires his ring 6 to be “impregnated” with a vaso-constrictor...to prevent bleeding (lines 68-70, column 1). To IMPREGNATE something, you have to have openings. Claim 1 further requires the endless strand to be circular in cross-section. Robertson shows its surfaces to be flat so as to act as a scraper to remove tissue from the sides of the tooth. One skilled in the art could not recognize that a circular cross-section would work as Robertson intended but rather would recognize that it would tamp tissue about the root of the tooth.

As indicated above the “medicinal coating” of Claim 13 is lacking in Robertson. Robertson’s vaso-constrictor is not a medicine (much less a medicine for any of pain or infection) and is not a coating on the endless strand (the appliance 6 being IMPREGNATED not COATED).

Method Claim 21 requires moving the endless strand tool of Claim 1 along the tooth UNTIL the tool touches the soft tissue gum adjacent the root portion of the tooth and then tamping the tool to move the touching soft gum tissue against the root portions of the tooth. Robertson operates completely opposite in that he pushes down on the soft gum tissue to

remove the soft gum tissue from around the root portions of the tooth and does not use the tool to tamp the gum tissue around the root portions of the tooth.

Accordingly the rejection of Claims 1, 2, 13, 15, 16 and 21 as anticipated by Robertson under 35 U.S.C. §102 is in error and should be reversed.

2. Whether the Brosius (5,829,974) patent anticipates each and every limitation of Claims 1, 3-5, 7-9, 11, 12, 15 and 17-20. Brosius has an elastic ring member ligature 20 which is utilized to secure an arch wire 34 to a bracket 30 bonded to a tooth 32 to provide braces used to straighten teeth (lines 10-19, column 1). The invention teaches placing a tab 24 (Figs. 2, 2a) or tabs 424 (Fig. 7) on the ligature to act as a grip extension allowing a dentist an enhanced area for grasping and stretching the ligature around tie wings 38, 40 on the bracket 30 bonded to tooth 32 to hold arch wire 34 in the bracket 30. Ligature ring 20 of Brosius is not taught or indicated to be used by slipping it over a tooth to grasp tooth surfaces. The ligature is only taught to stretch over a tooth bonded bracket to hold the arch wire onto the bonded bracket.

The Examiner states that "Patentable weight is not given to the intended use of the tool, the tool has the capability to be used on a tooth as claimed". All limitations of claim have to be given weight.

As indicated above, Claim 1 which is written in means plus function format (35 U.S.C. §112), requires "a gum packing assisting tool for forcing soft gum tissue of a patient around a tooth". There is no language or any hint of any teaching in Brosius to provide a basis to meet that limitation of Claim 1. While the length dimension of the ligature of Brosius is given, it is related to the distance between the tie wings 38, 38, 40, 40 on the bracket 30 and not to a tooth circumference wherein "the length of the endless strand is less than the circumference of tooth around which soft gum is to be forced around" as claimed, much less so "the endless strand can be tensioned to allow the endless strand to be placed



over and encircle the tooth and to tightly grip the edges of the tooth when the tension is released". Nor does Brosius provide for a cross-section of circular configuration to facilitate rolling downward of the endless strand over the sides of a tooth to the gum line of the patient as claimed in Claim 1. Brosius does not provide a teaching of using a tab (or plural tabs) to elongate the endless strand tool to permit easy removal of the endless strand tool from around a tooth (Claims 5, 11 and 12, lines 7-9).

Accordingly, Brosius does not anticipate Claims 1, 3-5, 7-9, 11, 12, 15 and 17-20 under 35 U.S.C. §102 as indicated supra.

3. Whether Brosius teaches one skilled in the art to modify the tool of Robertson to have the cross-sectional area of Brosius to facilitate installation of the tool of Robertson in view of Brosius so as to render Claims 3-12 obvious. Brosius was not proffered for, nor does it cure the shortcomings of Robertson as concerns the rejections of parent Claims 1 and 2 as explained above. Further, one skilled in the art of providing a soft tissue retracting tool of Robertson would not look to the ligature art of Brosius for a teaching of what the cross-sectional area of a tissue retracting tool should be, since the problems of soft tissue retracting have nothing in common with the ligature art, save for the fact that both technologies have to do with human teeth. Additionally, one skilled in the art would clearly recognize that having a rounded cross-section as the cross-section for scraping ring 6 of Robertson would lead to an inferior and unworkable device, since a rounded cross-section wouldn't scrape away tissue from the root of a tooth. It would not be obvious for one skilled in the art to modify a tool teaching of Robertson to render the tool of Robertson teaching inoperative. Therefore, the varying cross-section of Claim 3, the widened portion of Claim 4, the tab(s) of Claims 5-8 and 9-12 would not be taught by Brosius.

Hence, reconsideration of the rejection of Claims 3-12 as unpatentable over Robertson in view of Brosius under 35 U.S.C. §103 is improper and should be reversed.

4. Whether the Mahoney et al. (5,976,439) patent teaches one skilled in the art to modify Robertson to make its tool biodegradable under 35 U.S.C. §103. The Examiner states that Mahoney et al. teaches making a gum packing tool biodegradable at column 5, line 22. Lines 12-34, of column 5, of Mahoney et al. do not mention “biodegradable”. Further, as understood, the alginate products of Mahoney et al. are such that the fibers become stronger and are not susceptible to breaking down in a human cavity and thus are the opposite of being biodegradable.

Further the Examiner states that Mahoney et al. teaches that making the tool of Robertson biodegradable would somehow make Robertson’s tool biocompatible and easier to use by eliminating steps. The problem of biocompatible is not referenced as a concern of Robertson, nor can one find any discussion of an inter-relationship of biocompatible and biodegradable in Mahoney et al. Also, the steps allegedly to be eliminated are not referenced, wherein one could evaluate the alleged step eliminating teaching proffered by the Examiner . Lastly Robertson teaches removing its ring in THREE MINUTES after insertion (line 17, column 3).

Biodegradable materials used in body cavities are not absorbed in minutes. One skilled in the art would not look to biodegradability of the THREE MINUTE tool of Robertson, irrespective of what Mahoney et al. discloses. Lastly it is not clear that the Mahoney et al. material could be fashioned into a stretchable ring that could retract gum tissue from about the root of tooth which would make using that material as something obvious to one skilled in the Robertson art.

The Examiner’s contention that Claim 21 shows removal of the tool and thus that fact renders arguments to biodegradability as moot, is not in accordance with patent law. A feature of the invention of one claim, not mentioned in another does not moot the recitation,

nor does a specification statement that lists the feature as optional make the recitation moot. Further, removing could be by absorption.

Further, it is noted that Mahoney et al. was not proffered for, nor does it cure the shortcomings of Robertson as concerns, parent Claim 1 is explained above.

Accordingly, the proposed rejection of Claim 14 as being unpatentable over Robertson in view of Mahoney et al. under 35 U.S.C. §103 is improper and should be reversed.

5. Whether Claim 22 is unpatentable over Robertson under 35 U.S.C. §103.

The Examiner's contention that since Robertson does not show moving the tool in any particular fashion, that it would be obvious to one of ordinary skill in the art to move as specified in Claim 22.

It is noted that Robertson does not meet the limitations of parent Claims 1 and 21 as explained above. Further rolling of the strand toward the gum line is not taught by Robertson. Further, the square or rectangular cross-section of Robertson tool would not provide for rolling, nor would rolling be taught thereby as specified in Claim 22.

Accordingly, the proffered rejection of Claim 22 as being obvious over Robertson under 35 U.S.C. §103 is in error and should be reversed.

8. Claims Appendix

Claims 1-22 as finally rejected are attached.

9. Evidence Appendix

No evidence under 37 CFR 1.130, 1.131, or 1.132 has been deemed necessary or is provided.

10. Related Proceeding Appendix

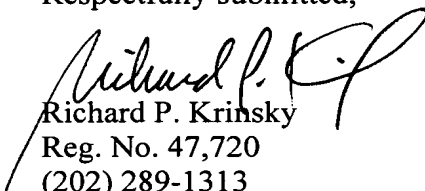
There are none

Summary

The Examiners final rejection of Claims 1-22 in the instant application are all improper as explained, supra and accordingly should be reversed by this honorable Board.

It is respectfully requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response and shortages in other fees, be charged, or any overpayment in fees be credited, to the Account of Barnes & Thornburg LLP, Deposit Account No. 10-0435 (644/37423).

Respectfully submitted,

  
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Claims Appendix

Claim 1        A gum packing assisting tool for forcing soft gum tissue of a patient around a tooth comprising:

an endless strand of material,

the endless strand being made of a material which is easily sterilized,

the endless strand being made of a flexible dense material which stretches when under tension and which returns to its original shape when the tension is released, and which admits of few, if any, pockets for housing germs and contaminants therein,

wherein the length of the endless strand is less than the circumference of tooth around which soft gum is to be forced around, so that the endless strand can be tensioned to allow the endless strand to be placed over and encircle the tooth and to tightly grip the edges of the tooth when the tension is released, and

wherein the endless strand tool has portions of its cross-section to be of circular configuration so as to facilitate rolling downward of the endless strand over the sides of a tooth to the gum line of the patient.

Claim 2        The gum packing assisting tool of Claim 1 wherein the cross section of the endless strand tool throughout its length is substantially constant.

Claim 3        The gum packing assisting tool of Claim 1 wherein the cross-section of the endless strand tool varies along its length.

Claim 4        The gum packing assisting tool of Claim 3 wherein the cross-sectional area of the endless strand tool has at least two widened portions, the ends of which are spaced from each by an equal distance.

Claim 5        The gum packing assisting tool of Claim 1 wherein a portion of the endless strand tool has at least one projecting tab to allow a dental practitioner to grip and pull the tab to elongate the endless strand tool to permit easy removal of the endless strand tool from around a tooth.

Claim 6        The gum packing assisting tool of Claim 2 wherein a portion of the endless strand tool has at least one projecting tab to allow a dental practitioner to grip and pull the tab to elongate the endless strand tool to permit easy removal of the endless strand tool from around a tooth.

Claim 7        The gum packing assisting tool of Claim 3 wherein a portion of the endless strand tool has at least one projecting tab to allow a dental practitioner to grip and pull the tab to elongate the endless strand tool to permit easy removal of the endless strand tool from around a tooth.

Claim 8        The gum packing assisting tool of Claim 4 wherein a portion of the endless strand tool has at least one projecting tab to allow a dental practitioner to grip and pull the tab to elongate the endless strand tool to permit easy removal of the endless strand tool from around a tooth.

Claim 9        The gum packing tool of Claim 5 wherein the endless strand tool has at least two projecting tabs equally spaced from one another to allow the dental practitioner to grasp and pull the tabs for easier elongation of the endless strand to assist in placing on and removal of the endless strand tool about a tooth.

Claim 10       The gum packing tool of Claim 6 wherein the endless strand tool has at least two projecting tabs equally spaced from one another to allow the dental practitioner to

grasp and pull the tabs for easier elongation of the endless strand to assist in placing on and removal of the endless strand tool about a tooth.

Claim 11      The gum packing tool of Claim 7 wherein the endless strand tool has at least two projecting tabs equally spaced from one another to allow the dental practitioner to grasp and pull the tabs for easier elongation of the endless strand to assist in placing on and removal of the endless strand tool about a tooth.

Claim 12      The gum packing tool of Claim 8 wherein the endless strand tool has at least two projecting tabs equally spaced from one another to allow the dental practitioner to grasp and pull the tabs for easier elongation of the endless strand to assist in placing on and removal of the endless strand tool about a tooth.

Claim 13      The gum packing tool of Claim 1 wherein the endless strand tool has a medicinal coating for treatment of any one of: pain, infection, and pain and infection.

Claim 14      The gum packing tool of Claim 1 wherein the endless tool is biodegradable.

Claim 15      A kit of a plurality of gum packing tools as defined in Claim 1 wherein the plurality of tools includes tools of at least one of different length endless strands, different thicknesses, and different shapes.

Claim 16      A kit of a plurality of gum packing tools as defined in Claim 2 wherein the plurality of tools includes tools of at least one of different length endless strands, different thicknesses, and different shapes.

Claim 17      A kit of a plurality of gum packing tools as defined in Claim 3 wherein the plurality of tools includes tools of at least one of different length endless strands, different thicknesses, and different shapes.

Claim 18      A kit of a plurality of gum packing tools as defined in Claim 4 wherein the plurality of tools includes tools of at least one of different length endless strands, different thicknesses, and different shapes.

Claim 19      A kit of a plurality of gum packing tools as defined in Claim 5 wherein the plurality of tools includes tools of at least one of different length endless strands, different thicknesses, and different shapes.

Claim 20      A kit of a plurality of gum packing tools as defined in Claim 9 wherein the plurality of tools includes tools of at least one of different length endless strands, different thicknesses, and different shapes.

Claim 21      The method of packing soft tissue gums around a tooth comprising the steps of:

selecting a gum packing assisting tool of Claim 1,

tensioning the gum packing assisting tool to stretch the tool,

placing the stretched tool over and around a tooth,

releasing the tension on the tool,

moving the tool along the tooth until the tool touches the soft tissue gum adjacent the root portion of the tooth,

tamping the tool to move the touching soft tissue gum against the root portions of the tooth, and

removing the tool from the tooth.

Claim 22      The method of Claim 21 wherein the moving of the tool is accomplished via rolling of the endless strand of material toward the gum line.



Evidence appendix

None.

Related proceedings appendix

None.